REMARKS

Reconsideration and further examination is respectfully requested. Claims 1-26 are currently pending in this application.

Claim Objection

Claim 17 was objected to under 37 C.F.R. §1.75 as being a substantial duplicate of claim 14. Applicants disagree that such objection is proper for at least two reasons. First, claim 17 serves to add further limitations not present in claim 14. Claim 17 recites:

"...means for determining the transformation of the label stack comprise means for transmitting messages of a signaling protocol between the nodes of said portion of the primary LSP, including indications of label stack manipulations performed by said nodes on packets transmitted along the primary LSP, and processing means for processing said indications at one of the first and second nodes for deriving said transformation..." No such limitation to the method of determining the transformation of the label stack can be read into claim 14 on its face, and accordingly this objection is not proper.

In addition, Applicants are confused, as they note neither claim 17 nor claim 14 have been allowed by the Examiner. As such, an objection is improper at this point in the prosecution, as a warning should merely have been issued. (See M.P.E.P. 706.03(k) paragraph 7.05.05).

Thus Applicants respectfully request that the objection be withdrawn.

Claims 1-26:

Claims 1-26 were rejected under 35 U.S.C. §103(a) as being

unpatentable over Lee (6,904,018) in view of Chuah (6,408,001).

Lee:

Lee describes, in the abstract:

"...a method for high speed rerouting in a multi protocol label switching (MPLS) network which can minimize a packet loss and enable a fast rerouting of traffic so as to protect and recover a multi point to point LSP occupying most LSPs in the MPLS network. The method for high speed rerouting in a multi protocol label switching (MPLS) network, the method comprising the steps of controlling a traffic stream to flow in a reverse direction in a point where a node or link failure occurs by using a backup Label Switched Path (LSP) comprising an Explicitly Routed (ER) LSP having a reverse tree of a protected multi point to point LSP and an ingress LSR through an egress LSR...."

In particular, Lee describes, at column 3, lines 62-67:

"...To achieve the above object, there is provided a method for high speed rerouting in a multi protocol label switching (MPLS) network, the method comprising the steps of controlling a traffic stream to flow in a reverse direction in a point where node or link failure occurs by using a backup Label Switched Path (LSP) comprising an Explicitly Routed (ER) LSP having a reverse tree of a protected multipoint-to-point LSP and an ingress LSR through an egress LSR."

Thus Lee describes a method which uses Explicit Routing to identify a

reverse path. Applicants note that no mention is made, in Lee of transforming a

label stack.

Chuah:

Chuah describes, in column 2:

"...A router, utilizing the method of the present invention in a destination based merging approach, first detects a plurality of unlabeled packets having a common destination address. The router then determines the quantity of unlabeled packets conveyed through the router, and having the common destination address, over a given period of time. The resulting quantity is called the packet transport density. The router maintains at least two packet transport density threshold values with which to compare the calculated packet transport density. ... if the calculated packet transport density value is between either threshold value, or is equal to either threshold value, then the packet transport density value is considered sufficiently large to warrant establishing a switched-packet flow. In accordance with one embodiment of the present

invention, the router first searches for an existing label associated with an established layer two packet flow having a common downstream destination... If such a label does exist, then an opportunity to merge two switched-packet flows over neighboring routers was found. The two corresponding switched-packet flows may be merged without further inquiry, or in an alternative embodiment, the router may investigate the quality of service guarantees, if any, associated with the respective switched-packet flows ... Advantageously, the multiple packet transport density threshold value scheme, in accordance with the present invention, allows routers to use and maintain a smaller quantity of total labels..."

Thus, Chuah is concerned with merging paths having similar transport

densities to conserve label use.

Applicants refer the Examine to pages 2 – 3 of Applicant's instant

specification, which describes a common problem with systems such as Lee's

and Chuah's:

"... The backup LSP may also span more than two successive links of the protected LSP. For example, in the previous case, the two LSPs may merge in router D. This may provide the path recovery function in cases where the failure detected by B occurs in router C. However, it is inoperative whenever the backup LSP bypasses a LSR which performs some action on the MPLS label stack (pushing, popping, swapping). In our example, if C changes the label stack, D will not get the packets with correct labels along the backup LSP and therefore will not switch or process them as required..."

Applicants' respectfully submit that the solutions provided by Lee and

by Chuah do nothing to overcome the problems of the prior art, as they do not

perform the steps of the claimed invention of "...determining a transformation

of the label stack of a packet transmitted along said portion of the primary LSP

from an output of the first node to an input of the second node ... configuring

the first node to switch a packet to the backup LSP upon detection of a failure in

said portion of the primary LSP... and configuring at least one node of the

backup LSP to process the label stack of any packet transmitted along the

backup LSP so as to apply said transformation...."

The Examiner admits, at page 3 of the office action "... Lee does not explicitly indicate that the packet has a label stack on which to push and pull labels from, just swapping the values of labels (Column 1, lines 27-31)..." The Examiner goes on to state:

> "... Chuah teaches a label routing system that includes having a label stack located in each packet being communicated in the system (column 6, line 61 – column 7, line 14). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Chuah's teaching of a label stack in Lee's system in order to allow the swapping of labels happen based on the pulling and pushing of labels onto the stack already located in the label stack (column 7, lines 15-19) not having to search a label table (column 1, lines 27-31)..."

Applicants note that the Examiner refers merely to the description of label stacks in MPLS.

As described in M.P.E.P. §2143 "...To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations...."

For at least the reasons outlined below, Applicants believe that the rejection of claims 1-26 under 35 U.S.C. §103 using the combination of Lee and Chuah is improper, because the combination of references fails to satisfy the prima facie criteria.

No motivation for the modification suggested by the Examiner

There are three possible sources for a motivation to combine references: the nature of the problem to be solved, the teachings of the prior art, and the knowledge of persons of ordinary skill in the art." *In re Rouffet,* 149 F.3d 1350, 1357, 47 USPQ2d 1453, 1457-58 (Fed. Cir. 1998)..."

"...The mere fact that references <u>can</u> be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990)..."

Applicants can find no suggestion in the prior art which would motivate Lee to use label stacking as suggested by the Examiner. Applicants note that a full reading of Chuah, in fact, teaches the desirability of minimizing the number of labels that are used in the network. Accordingly, for at least the reason that the motivation suggested by the Examine can not be found, the rejection is improper, and it is requested that it be withdrawn.

Combination neither describes nor suggests the claimed invention

However, even assuming that a motivation could be found for the modification suggested by the Examiner, Applicants note that the combination of references still fails to teach every limitation of the claims in the present invention.

To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). "All words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970).

Applicants submit that the Examiner has failed to give patentable weight to the language of the claims.

<u>Claims 1- 13:</u>

Applicants' claim 1 is patentably distinct over the combination of Lee and Chuah, which neither describes nor suggests the steps of "... determining a transformation of the label stack of a packet transmitted along said portion of the primary LSP from an output of the first node to an input of the second node ... configuring the first node to switch a packet to the backup LSP upon detection of a failure in said portion of the primary LSP ... and configuring at least one node of the backup LSP to process the label stack of any packet transmitted along the backup LSP so as to apply said transformation...."

1. <u>Combination of references neither describes nor suggests the step of "determining a transformation of the label stack ...configuring at least one node of the backup LSP ... to apply said transformation"</u>

Although Chuah describes that the backup path is Explicitly Routed from the failed link to the egress point, it does not suggest the step of determining the transform of the label stack *as an input to the second node*, and processing a packet using this transform. Rather, the Explicitly Route appears to be merely an explicit path. Such path would include a reverse path, but does not capture transform information that is the *input to the second node*. For example, if there is label swapping that is performed a first node in an ER back to the source of Lee, the first node indicated in the explicit reverse route of ER does not reflect this label swapping. According, the Examiner is not giving patentable weight to all of the limitations of claim 1, in particular the language that

the 'transform' is 'a transformation of the label stack of a packet transmitted along said portion of the primary LSP from an output of the first node *to an input of the second node...*" Chuah also fails to describe or suggest such a feature.

Therefore, for at least the reasons that the combination of references fails to describe or suggest the claimed invention, the claims are patentably distinct over the combination of references, and it is requested that the rejection be withdrawn.

Dependent claims 2-13 serve to add further patentable limitations to claim 1 but are allowable for at least the reasons put forth with regard to claim 1.

Claims 14-26:

Claim 14 recites "...A label switching network including a primary label switched path (LSP) ... comprising ... means for defining at least one backup LSP starting from the first node and merged with the primary LSP at the second. node ... *means for determining a transformation of the label stack of a packet transmitted along said portion of the primary LSP from an output-of the first node to an input of the second node* ... means for configuring the first node to cause said first node to switch a packet to the backup LSP upon detection of a failure in said portion of the primary LSP ... and means for configuring a node of the backup LSP to cause said node to process the label stack of any packet transmitted along the backup LSP so as to apply said transformation..."

Thus, similar to claim 1, for at least the reason that the combination of references fails to describe or suggest "... means for determining a

transformation .... from an output of the first node to an input of the second node..." the claims are patentably distinct over the combination of references, and the rejection should be withdrawn. Dependent claims 15-26 serve to add further patentable limitations to claim 14 and are therefore allowable with claim 14.

Conclusion:

Applicants have made a diligent effort to place the claims in condition for allowance. However, should there remain unresolved issues that require adverse action, it is respectfully requested that the Examiner telephone Lindsay G. McGuinness, Applicants' Attorney at 978-264-6664 so that such issues may be resolved as expeditiously as possible.

For these reasons, and in view of the above amendments, this application is now considered to be in condition for allowance and such action is earnestly solicited.

Respectfully Submitted,

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Date

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